

ABSTRACT

In electrosurgical system includes an electrosurgical generator providing power through an electrode, and a laser providing laser energy through an optical fiber. The electrode optical fiber and a source of environmental gas can all be included in a handpiece, catheter or other delivery device. In operation, the environmental gas can be released into the vicinity of an operative site and the laser activated to energize atoms along a pathway. Electrosurgical power can then be applied to ionize the items of the atoms of the pathway and create a path of least resistance for an electrosurgical arc. A reduction in the laser power required can be achieved by matching the photon frequency of the laser with the excitation frequency of the environmental gas. In a laparoscopic procedure, the insufflation gas may be used as the environmental gas.

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